

**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF SOUTH CAROLINA  
CHARLESTON DIVISION**

UNITED STATES OF AMERICA,	)	
	)	
Plaintiff,	)	
	)	Civil Action No. <u>2:23-cv-01832-DCN</u>
v.	)	
	)	
3V SIGMA USA, INC.	)	
	)	
Defendant.	)	
	)	

**COMPLAINT**

The United States of America, by authority of the Attorney General of the United States, and at the request of the Administrator of the United States Environmental Protection Agency (“EPA”), through the undersigned attorneys, files this Complaint and alleges as follows:

**NATURE OF THE ACTION**

1. This is a civil action brought against 3V Sigma USA, Inc. (“3V” or “Defendant”) for the assessment of civil penalties and injunctive relief for violations of the Clean Air Act (the “Act”), 42 U.S.C. §§ 7401 to 7671q, and its implementing regulations at its Georgetown, South Carolina facility (the “Facility”).

2. 3V has violated the Act and its implementing regulations by, among other things: (1) failing to properly monitor and repair equipment leaking hazardous air pollutants; (2) failing to properly characterize and control wastewater streams; (3) failing to properly operate its closed vent system to direct emissions to a control device or, in the alternative, failing to operate in accordance with good air pollution control practices to minimize emissions; and (4) failing to

provide required information to regulators. The United States seeks (a) performance of actions by 3V at its Facility to come into compliance with the Act and its implementing regulations and (b) an appropriate civil penalty.

### **JURISDICTION AND VENUE**

3. This Court has jurisdiction over the subject matter of this action and 3V, pursuant to 28 U.S.C. §§ 1331, 1345, and 1355, and 42 U.S.C. § 7413(b).

4. Venue is proper in this district pursuant to 28 U.S.C. §§ 1391 and 1395 and 42 U.S.C. § 7413(b), because the Facility is located, and the claims arose, within this judicial district.

### **NOTICE**

5. The United States has provided notice of the commencement of this action to the State of South Carolina as required by 42 U.S.C. § 7413(b).

### **AUTHORITY**

6. The United States Department of Justice has authority to bring this action on behalf of the Administrator of the EPA pursuant to 28 U.S.C. §§ 516 and 519 and 42 U.S.C. § 7605(a).

### **DEFENDANT**

7. 3V is a corporation organized and existing under the laws of Delaware and licensed to do business in the State of South Carolina.

8. 3V owns and operates a specialty chemical manufacturing facility in Georgetown, South Carolina.

9. 3V is a “person” within the meaning of 42 U.S.C. § 7602(e).

### **STATUTORY AND REGULATORY BACKGROUND**

10. The Clean Air Act was enacted to protect and enhance the quality of the nation's air resources so as to promote the public health and welfare and the productive capacity of its population. 42 U.S.C. § 7401(b)(1).

11. The Act sets forth a national program for the control of hazardous air pollutants ("HAPs"). 42 U.S.C. § 7412. Congress listed 188 hazardous air pollutants believed to cause adverse health or environmental effects. 42 U.S.C. § 7412(b)(1).

12. The Act requires the Administrator of EPA to promulgate regulations establishing emission standards for categories of major sources of HAPs. 42 U.S.C. § 7412(d)(1). The statute provides that a major source is a stationary source that emits or has the potential to emit 10 tons or more per year of any single hazardous air pollutant or 25 tons or more per year of any combination of hazardous air pollutants. 42 U.S.C. § 7412(a)(1). The Act states that the emission standards must provide for the maximum degree of reduction in emissions as determined by the Administrator. 42 U.S.C. § 7412(d)(2), (3).

13. Congress directed the Administrator of EPA to publish a list of all categories and subcategories of major sources of HAPs. 42 U.S.C. § 7412(c). A "category" of sources is a group of sources having some common features suggesting that they should be regulated in the same way and on the same schedule. 57 Fed. Reg. 31,576, 31,578 (July 16, 1992).

14. Once a category is on the list, the Act requires EPA to promulgate federal emission standards for each category or subcategory of major sources of HAPs. 42 U.S.C. § 7412(d)(1). These emission standards represent the maximum achievable control technology ("MACT") as determined by EPA pursuant to the requirements in Section 112(d) and are often called the MACT standards. The MACT standards, also known as the National Emission

Standard for Hazardous Air Pollutants (“NESHAPs”) are contained in Part 63 of Title 40 of the Code of Federal Regulations.

15. An “affected source” is the collection of equipment or activities within a single contiguous area and under common control that is included in a source category for which a NESHAP is established. 40 C.F.R. § 63.2. Each NESHAP defines the relevant affected source or sources within a facility to which the NESHAP applies.

16. Subject to an exception not applicable here, after the effective date of any emission standard, limitation, or regulation promulgated pursuant to Section 112 of the Act, no person may operate a source in violation of such standard, limitation, or regulation. 42 U.S.C. § 7412(i)(3).

**MACT for Miscellaneous Organic Chemical Manufacturing**  
**(40 C.F.R. Part 63, Subpart FFFF)**

17. Of relevance to this Complaint, in 2002, EPA identified Miscellaneous Organic Chemical Manufacturing as a category of major sources that emit or may emit HAPs pursuant to 42 U.S.C. § 7412(c). 67 Fed. Reg. 16,154 (April 4, 2002). In 2003, EPA promulgated the NESHAP for Miscellaneous Organic Chemical Manufacturing in 40 C.F.R. Part 63, Subpart FFFF. 40 C.F.R. §§ 63.2430 – 63.2550 and associated tables. These provisions commonly are referred to as “Subpart FFFF,” or the “MON.” 68 Fed. Reg. 63,852 (Nov. 10, 2003). The compliance date for existing sources was May 10, 2008.

18. Owners or operators of miscellaneous organic chemical manufacturing process units (“MCPUs”) that are located at, or are part of, a major source of hazardous air pollutants, must comply with the standards of the MON. 40 C.F.R. § 63.2435.

19. An MCU includes equipment necessary to operate a miscellaneous organic chemical manufacturing process that satisfies the following conditions: (1) the MCU produces

material or a family of materials that is an organic chemical classified using the 1987 version of the SIC code 286; (2) the MCPU processes, uses, or generates a hazardous air pollutant; and (3) the MCPU is not an affected source or part of an affected source under another subpart of Part 63. 40 C.F.R. § 63.2435(b).

20. A “miscellaneous organic chemical manufacturing process” means all equipment that collectively functions to produce a product or isolated intermediate product that is specifically described in 40 C.F.R. § 63.2435(b). 40 C.F.R. § 63.2550. For the purposes of the MON, “process” includes any, all, or a combination of reaction, recovery, separation, purification, or other activity, operation, manufacture, or treatment which are used to produce a product or isolated intermediate. 40 C.F.R. § 63.2550.

21. The “affected source” to which the standards of the MON apply is the facility-wide collection of MCPUs and heat exchange systems, wastewater, and waste management units that are associated with manufacturing materials described in 40 C.F.R. § 63.2435(b)(1), and meets the requirements of 40 C.F.R. § 63.2435(b)(2) and (3). 40 C.F.R. § 63.2440(b).

22. At all times relevant to this Complaint, owners or operators of affected sources subject to the MON must also comply with certain requirements of the General Provisions of the NESHAP contained in 40 C.F.R. Part 63, Subpart A, including 40 C.F.R. § 63.6(e). Table 12, 40 C.F.R. Part 63, Subpart FFFF. The General Provisions require the owners or operators of an affected source subject to the MON to operate and maintain the source, including associated air pollution control equipment, in a manner consistent with good air pollution control practices at all times, including periods of startup, shutdown, and malfunction. 40 C.F.R. § 63.6(e).

23. The MON sets forth emission limits, work practice standards, and compliance requirements for affected sources, including but not limited to (1) leaks of hazardous air

pollutants from equipment, 40 C.F.R. § 63.2480; (2) wastewater streams, 40 C.F.R. § 63.2485; and (3) closed vent systems associated with MCPUs, 40 C.F.R. §§ 63.2470 and 2450(e). The MON also sets forth reporting requirements. 40 C.F.R. §§ 63.2520 and 2525.

#### MON Requirements for Equipment Leaks

24. The owner or operator of an affected source must comply with each equipment leak requirement in Table 6 to the MON that applies to its equipment. 40 C.F.R. § 63.2480(a). Equipment means each pump, compressor, agitator, pressure relief device, sampling connection system, open-ended valve or line, valve, connector, and instrumentation system in organic HAP service, and any control devices or systems used to comply with Table 6 to the MON. 40 C.F.R. § 63.2550(i).

25. Of relevance to this Complaint, Table 6 to the MON requires owners or operators of equipment in organic HAP service that is part of any MCPU to comply with one of three options to control equipment leaks. 40 C.F.R. Part 63, Subpart FFFF, Table 6. “In organic HAP service” means the equipment contains or contacts a fluid that is at least 5% by weight of total organic HAPs as determined according to the provisions of 40 C.F.R. § 63.180(d).

26. One compliance option for the owner or operator of such equipment is to comply with the requirements of 40 C.F.R. Part 63, Subpart UU (National Emission Standards for Equipment Leaks – Control Level 2 Standards). Subpart UU applies to equipment that contains or contacts regulated material, which includes HAPs. 40 C.F.R. § 63.1019(b).

27. Among other things, Subpart UU requires owners or operators to (1) identify equipment subject to the provisions of Subpart UU, 40 C.F.R. §§ 63.1022 and 63.1038(b)(1); (2) physically tag equipment when a leak is detected, 40 C.F.R. § 63.1023(e)(1); (3) monitor equipment at specific intervals with an instrument in accordance with the procedures set forth in

40 C.F.R. § 63.1023(b) and Method 21 of 40 C.F.R. Part 60, Appendix A, 40 C.F.R. § 63.1023; and (4) ensure that each open-ended valve or line is sealed with a cap, blind flange, plug, or a second valve, subject to certain exceptions, 40 C.F.R. § 63.1033.

#### MON Requirements for Wastewater Streams

28. The owner or operator of an affected source with wastewater streams must comply with each requirement in Table 7 of Subpart FFFF that applies to its wastewater streams. 40 C.F.R. § 63.2485(a). A wastewater stream is a stream that includes only water discarded from an MCPU or control device through a “point of determination” and that contains either: (1) an annual average concentration of at least 5 parts per million by weight (“ppmw”) of compounds listed in Tables 8 and 9 of Subpart FFFF, and has an annual average flowrate of .02 liters per minute or greater; or (2) an annual average concentration of at least 10,000 ppmw of compounds listed in Tables 8 and 9 of Subpart FFFF at any flow rate. 40 C.F.R. § 63.2550(i).

29. The compounds listed in Tables 8 and 9 of Subpart FFFF (“MON Wastewater Compounds”) are those that are soluble or partially-soluble and have the potential to volatilize from water to the atmosphere. 68 Fed. Reg. 63,862 (Nov. 10, 2003).

30. A “point of determination” or “POD” means each point where process wastewater exits an MCPU or a control device. 40 C.F.R. § 63.2550(i).

31. “Process wastewater” means wastewater which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, by-product, or waste product. 40 C.F.R. § 63.101 (incorporated by 40 C.F.R. § 63.2550(e)).

32. Table 7 requires that owners and operators of an affected source with process wastewater streams subject to the MON must comply with the requirements in 40 C.F.R.

§ 63.132 - 63.148 in 40 C.F.R. Part 63, Subpart G – National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater (“Subpart G” or the “HON”).

33. Among other things, Subpart G requires owners or operators to: (1) either determine whether a wastewater stream is a Group 1 or Group 2 wastewater stream under the regulations by analyzing the concentration of MON Wastewater Compounds in the wastewater stream and its flow rate in accordance with specific procedures, or designate a wastewater stream as Group 1, 40 C.F.R. §§ 63.132(a)(1), 63.132(c), and 63.144(a), 40 C.F.R. § 63.2485(b), (c); (2) treat or control Group 1 wastewater streams to remove or destroy organic HAPs, 40 C.F.R. § 63.138(b); (3) evaluate wastewater treatment processes to ensure that they remove or destroy organic HAPs appropriately, 40 C.F.R. § 63.138(j); (4) operate and maintain a fixed roof on wastewater tanks that receive, manage, or treat a Group 1 wastewater stream, 40 C.F.R. § 63.133(a); and (5) maintain records and report information regarding determinations of wastewater streams and the efficacy of treatment processes, 40 C.F.R. § 63.146(b).

34. The MON provides that, where an owner or operator must comply with the requirements in 40 C.F.R. §§ 63.132 – 63.148 of Subpart G, they should read references to “compounds in table 9 to Subpart G” as “compounds in tables 8 and 9 to [the MON].” 40 C.F.R. § 63.2485(b).

35. If an owner or operator of an existing source does not designate a process wastewater stream as Group 1, they must determine the concentration of all MON Wastewater Compounds and the flow rate of the stream at the point of determination, or downstream of the point of determination if corrections are made for losses by air emissions, reduction of annual



average concentration, or changes in flow rate as a result of mixing with other streams. 40 C.F.R. § 63.144(a). Specific requirements and procedures for making these determinations are set forth in 40 C.F.R. § 63.144(b) and (c).

36. A process wastewater stream subject to the MON is Group 1 if it meets the criteria set forth in 40 C.F.R. § 63.2485(c), which is based on concentrations and total annual loads of both partially-soluble and soluble organic HAPs, as well as flow rates.

37. Under 40 C.F.R. § 63.133, for each wastewater tank that receives, manages, or treats a Group 1 wastewater stream or a residual removed from a Group 1 wastewater stream, and does not treat wastewater by means of an exothermic reaction or sparge its contents, the owner or operator must operate and maintain a fixed roof on the tank. 40 C.F.R. § 63.133(a).

38. A “fixed roof” means a “cover” that is mounted on a waste management unit or storage vessel in a stationary manner and that does not move with fluctuations in liquid level. 40 C.F.R. § 63.111 (incorporated by 40 C.F.R. § 63.2550(e)). A “cover” means a device or system placed on a waste management unit so the entire surface area is enclosed to minimize emissions. 40 C.F.R. § 63.111. A cover may have openings necessary for operation, inspection, and maintenance of the waste management unit such as access hatches, sampling ports, and gauge wells provided that each opening is closed when not in use. *Id.*

#### MON Requirements for Closed Vent Systems

39. An owner or operator of an MCPU that reduces organic HAP emissions by venting emissions through a closed-vent system to any combination of control devices (except a flare) or recovery devices must meet the requirements of 40 C.F.R. § 63.982(c) and the requirements referenced therein. 40 C.F.R. § 63.2450(e)(1). Those requirements mandate that owners or operators that vent emissions through a closed vent system design and operate that

system to collect the regulated material vapors from the emission point and route the collected vapors to a control device. 40 C.F.R. §§ 63.982(c), 63.983(a)(1).

40. A “closed vent system” means a system that is not open to the atmosphere and is composed of piping, ductwork, connections, and, if necessary, flow inducing devices that transport gas or vapor from an emission point to a control device. 40 C.F.R. § 63.2550(a) (incorporating definition at 40 C.F.R. § 63.981).

#### MON Reporting Requirements

41. An owner or operator of an MCPU must submit to EPA and the authorized Title V permitting authority a Notification of Compliance Status (“NOCS”) report, certified by a responsible official, no later than 150 days after the compliance date (May 10, 2008 for existing sources), or October 7, 2008. 40 C.F.R. §§ 63.2520(d) and 63.2525. The original NOCS report must include “results of any applicability determinations, emission calculations, or analyses used to identify and quantify HAP usage or HAP emissions from the affected source” and “results of emissions profiles, performance tests, engineering analyses, design evaluations . . . and calculations used to demonstrate initial compliance . . . .” 40 C.F.R. § 63.2520(d)(2).

42. Thereafter, an owner must submit Semi-Annual Compliance Reports to EPA and the authorized Title V permitting authority. 40 C.F.R. § 63.2520(b).

43. If the owner or operator of an affected source makes (1) a process change, such as adding a new process; or (2) changes to any of the information included in the original NOCS report or a previous compliance report (that is not within the scope of an existing operating scenario previously reported), the owner or operator is required to notify EPA and the authorized Title V permitting authority in the next compliance report. 40 C.F.R. § 63.2520(b) and (e)(10). The required notification includes, but is not limited to, revisions to any of the information

reported in the original NOCS report and, for the addition of any new processes, any information required to be in the original NOCS report. 40 C.F.R. § 63.2520(e)(10).

### **CAA Enforcement Authority**

44. The Act authorizes EPA to bring a civil action in accordance with 42 U.S.C. § 7413(b), when EPA finds that any person has violated or is in violation of a NESHAP. 42 U.S.C. § 7413(a)(3).

45. The Act authorizes the Administrator to initiate a judicial enforcement action for a permanent or temporary injunction and/or a civil penalty of up to \$25,000 per day for each violation of the Act. 42 U.S.C. § 7413(b). Under the Federal Civil Penalties Inflation Adjustment Act of 1990, the United States may seek penalties of not more than \$117,468 per day for each violation occurring after November 3, 2015.

### **GENERAL ALLEGATIONS**

46. The Facility is located at 888 Woodstock Street, Georgetown, South Carolina, on approximately 65 acres.

47. At all times relevant to this Complaint, 3V has been the “owner or operator” of the Facility, within the meaning of 42 U.S.C. § 7412(a)(9) and 40 C.F.R. § 63.2.

48. From at least November 10, 2003 to the present, the Facility has been a major source of HAPS, within the meaning of 42 U.S.C. § 7412, because it is a stationary source located within a contiguous area under common control that has emitted, or has the potential to emit, 25 tons per year or more of any combination of HAPs, including xylenes, methanol, methylene chloride, and acrylic acid.

49. From at least November 10, 2003, the Facility has manufactured, and continues to manufacture, specialty chemicals that can be used in textiles, paper, plastics, detergents, water

treatment, and cosmetics, including acrylic polymers, vinyl polymers, ultra-violet light absorbers, and fluorescent whitening and quenching agents. The Facility is a batch process operation.

50. As set forth in the table below, at various times since at least October 2008, 3V produces, and has produced, miscellaneous organic chemicals classified in the 1987 version of Standard Industrial Code 286 at four plants (Alpha/Beta/Epsilon, Delta 1, Delta 2, Gamma) located at the Facility.

<b><u>Product</u></b>	<b><u>Plant(s)</u></b>
Elphos ET	Alpha/Beta/Epsilon
Luxus 1	Alpha/Beta/Epsilon
Luxus 2 from 5	Alpha/Beta/Epsilon
Luxus 5	Alpha/Beta/Epsilon
Efram CR	Alpha/Beta/Epsilon/Delta 1
Extrapin	Alpha/Beta/Epsilon
Tabanol 5	Alpha/Beta/Epsilon/ Delta 2/Gamma
Tabanol NA	Alpha/Beta/Epsilon
Unox 3	Alpha/Beta/Epsilon
51 MT	Alpha/Beta/Epsilon
Tabanol 1	Alpha/Beta/Epsilon
Tabanol 1	Delta 1
Tabanol 2	Delta 1
Tabanol P	Alpha/Beta/Epsilon
Tabanol E	Alpha/Beta/Epsilon
HA-88	Alpha/Beta/Epsilon
HA-19	Alpha/Beta/Epsilon

51. To produce each of the products and isolated intermediaries listed in Paragraph 50, 3V runs a “process,” within the meaning of 40 C.F.R. § 63.2550(i), including reaction, recovery, separation, purification, or other activity, operation, manufacture or treatment.

52. Hereinafter, the processes run to produce the products listed in Paragraph 50 are referred to as the “MON Processes” together, or individually, the [Product] Process. For example, the “HA-88 Process” is the process, or processes, operated in order to produce HA-88.

53. At all times relevant to this Complaint, the Facility, and each plant listed in Paragraph 50, has included valves, pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended lines or valves, connectors, instrumentation systems, storage tanks, closed vent systems, and transfer racks, which are used to operate the MON processes.

54. The equipment referred to in Paragraph 53, and each plant and associated storage tanks, constitute “MCPUs” within the meaning of 40 C.F.R. Part 63, Subpart FFFF (hereinafter, “3V MCPUs”).

55. The 3V MCPUs are not an “affected source” or part of an “affected source” under any NESHAP other than the MON.

56. Each of the 3V MCPUs process, use, or generate, among other chemicals, methylene chloride, methanol, xylenes (including xylene(m) and/or (p) and xylene(o)), benzotrichloride, vinyl acetate, acetaldehyde, ethyl acrylate, acrylic acid, allyl chloride, acrylamide, or formaldehyde. Each of these chemicals is an organic HAP listed in 42 U.S.C. § 7412(b).

57. At all times relevant to this Complaint, the equipment described in Paragraph 53 has been “in organic HAP service,” within the meaning of 40 C.F.R. § 63.2550, and has contained or contacted “regulated material” within the meaning of 40 C.F.R. §§ 63.1019(b), 63.1020.

58. As part of the Tabanol 5, 51MT (Distillate B to A), HA-88, and HA-19 Processes, at various times since October 2008, 3V has discarded water from various locations in the Delta, Gamma, Alpha, Beta, or Epsilon Plants, or from the cryogenic condenser, that has come into contact with xylene, ethylbenzene, methanol, or methylene chloride.

59. Each of the discarded water streams described in Paragraph 58 exceeds an annual average concentration of 5 ppmw of a MON Wastewater Compound, and has an annual average flow rate of at least .02 liters per minute.

60. The discarded water is “wastewater” within the meaning of 40 C.F.R. § 63.2550(i) and “process wastewater” within the meaning of 40 C.F.R. § 63.101 (incorporated into the MON by 40 C.F.R. § 63.2550(e)). Each stream of discarded water described in Paragraph 58 is a “wastewater stream” within the meaning of 40 C.F.R. § 63.2550(i).

61. The Facility includes steel tanks that accumulate wastewater or residuals from wastewater, including Group 1 wastewater streams and do not treat wastewater by means of an exothermic reaction or sparge its contents. These tanks are “wastewater tanks” within the definition in 40 C.F.R. § 63.111 (incorporated by 40 C.F.R. § 63.2550(e)) and “waste management units” within the meaning of 40 C.F.R. § 63.2550(i).

62. The facility-wide collection of the 3V MCPUs, the wastewater streams described in Paragraph 58, and the wastewater tanks described in Paragraph 61 are an “affected source” under the MON within the meaning of 40 C.F.R. § 63.2 (“the 3V Affected Source”).

63. The 3V Affected Source is an “existing source” within the meaning of 40 C.F.R. § 63.2.

#### 3V’s Compliance Reports

64. 3V submitted its original NOCS report for the Facility to EPA and South Carolina Department of Health and Environmental Control (“SCDHEC”) in October 2008 (the “2008 NOCS Report”). That report stated that each of the 3V MCPUs was subject to the MON for the processes used to produce the chemicals listed in Paragraph 50, that the Facility had equipment subject to the MON’s equipment leak requirements, that the Facility generated Group 1

wastewater streams subject to the MON's wastewater requirements, and that the Facility included Group 1 storage tanks.

65. In the 2008 NOCS Report, 3V reported the Facility would comply with the MON's standards for equipment leaks by complying with 40 C.F.R. Part 63, Subpart UU; Group 1 process wastewater streams by complying with 40 C.F.R. § 63.138(b)(1) in Subpart G; and Group Storage Tanks by reducing total HAP emissions from those tanks by greater than or equal to 95 percent by weight or to less than or equal to 20 parts per million by volume of Total Organic Carbon (TOC) or organic HAPs by venting emissions through a closed vent system to a combination of control devices, including a thermal oxidizer or cryogenic condenser.

66. In 2010, 2011, and 2020, 3V submitted revisions to the 2008 NOCS Report. Each report stated the MCPUs were subject to the MON and included the same compliance selections for equipment leaks, wastewater streams, and Group 1 storage tanks that were in the 2008 NOCS Report.

67. Between 2008 to the present, 3V has also submitted reports purporting to document compliance with the MON to SCDHEC on a semi-annual basis ("Semi-Annual Compliance Reports"). In each Semi-Annual Compliance Report, 3V reported the processes that had been run at each plant during the relevant six-month reporting period, and the results of leak monitoring during that period.

#### EPA Inspections of the Facility and Communications with 3V

68. On December 9-10, 2015, representatives of EPA, along with representatives of the SCDHEC, inspected the Facility for compliance with the MON.

69. On June 12-20, 2017, representatives of EPA, including representatives of EPA's Region 4 office and EPA's National Enforcement Investigations Center ("NEIC"), along with representatives of SCDHEC, inspected the Facility for compliance with the MON.

70. During the 2017 inspection, a representative from NEIC took samples of wastewater from various locations in the HA-88, Tabanol 5, and Distillate B to A Processes.

71. During the inspections and in follow-up correspondence, 3V provided documents and information regarding the Facility and its compliance with the MON to EPA, including historical sampling analyses.

72. On February 24, 2020, EPA sent a letter to 3V identifying potential violations at the Facility, which is attached to this Complaint as Appendix A.

73. On August 1, 2020, 3V submitted to EPA a letter responding to the potential violations and included additional information regarding the Facility's MON compliance, including Piping & Instrumentation Diagrams and wastewater processes (the "August 2020 Letter").

**FIRST CLAIM FOR RELIEF**  
**(Violations of Leak Detection and Repair Requirements)**

74. Paragraphs 1 – 73 are re-alleged and incorporated herein by reference.

**Failure to Properly Calibrate Leak Detection Instrument**

75. 3V is required by 40 C.F.R. § 63.1023(a)(1) to use a leak detection instrument to monitor valves, connectors, pumps, agitators, and pressure relief devices at the Facility.

76. During the 2015 and 2017 inspections, EPA inspectors observed representatives of 3V calibrate the Facility's leak detection instrument, a Thermo Fisher Scientific Toxic Vapor Analyzer 1000B ("TVA").



77. The TVAs used by 3V to monitor leaks at the Facility from 2015 through the present are designed for multiple calibration scales.

78. Pursuant to 40 C.F.R. § 63.1023(b)(3) and (4) (in Subpart UU); Section 7.1 of Method 21 in 40 C.F.R. Part 60, Appendix A, 3V is required to calibrate its leak detection instrument using three gases (zero gas (less than 10ppm), either a gas mixture at 500ppm or a gas mixture at between 500ppm - 2500ppm, and a gas mixture at 10,000ppm).

79. During the 2015 and 2017 inspections, 3V's representatives did not calibrate its TVA using a zero gas or a gas mixture at 10,000ppm.

80. Through at least June 2018, the only prepared gas mixture 3V used to calibrate its TVA was one at approximately 500 ppm.

81. Between at least December 2015 and at least June 2018, 3V failed to calibrate its leak detection instrument as required by 40 C.F.R. § 63.1023(b)(3) and (4) in Subpart UU and Method 21 in 40 C.F.R. Part 60, Appendix A.

*Failure to Cap or Seal Open-Ended Lines*

82. During the 2015 and 2017 inspections, EPA inspectors observed valves or lines associated with pumps used as part of MON Processes at the Facility that were not equipped with a cap, blind flange, plug, or second valve.

83. Between 2017 and 2018, there were lines associated with every pump for the Epsilon area of the Alpha/Beta/Epsilon plant, which runs MON Processes, at the Facility that were not equipped with a cap, blind flange, plug, or second valve.

84. The valves or lines described in Paragraphs 82 - 83 are in contact with process fluid whenever the pumps are in use in a MON Process.

85. The valves or lines described in Paragraphs 82 - 83 are “open-ended valves or lines,” within the meaning of 40 C.F.R. § 63.1020.

86. 3V was required to equip each of its open-ended valves or lines with a cap, blind flange, plug, or second valve to comply with 40 C.F.R. § 63.1033(b)(1) in Subpart UU.

87. 3V failed to equip each open-ended valve or line with a cap, blind flange, plug, or second valve as required by 40 C.F.R. § 63.1033(b)(1) in Subpart UU.

*Failure to Properly Identify and Record Subject Equipment*

88. Based upon EPA’s observations during the 2015 inspection and the documentation submitted by 3V to EPA, between at least December 9, 2015 and the present, 3V failed to identify the Facility’s equipment subject to the equipment leak requirements as required by 40 C.F.R. § 63.1022(a) in Subpart UU, because (1) the Process & Instrumentation Diagrams (“P&IDs”) for the Facility did not identify subject equipment accurately or with sufficient specificity; and (2) subject equipment was not labeled or numbered physically or on P&IDs.

89. Based upon the documentation submitted by 3V to EPA, between at least December 9, 2015 and the present, 3V failed to keep records identifying the Facility’s equipment subject to equipment leak requirements as required by 40 C.F.R. § 63.1038(b)(1) in Subpart UU.

*Failure to Tag Leaking Equipment*

90. From at least December 9, 2015, 3V failed to tag leaking equipment with weatherproof and easily visible tags as required by 40 C.F.R. § 63.1023(e) in Subpart UU.

91. Each of 3V’s failures to comply with the Subpart UU equipment leak requirements described in this Claim for Relief is a separate violation of the MON’s equipment leak standards in 40 C.F.R. § 63.2480(a) and Table 6.

92. Each violation of the MON constitutes a separate violation of 42 U.S.C. § 7412, and its implementing regulations at 40 C.F.R. Part 63, Subpart FFFF.

93. Unless enjoined by this Court, 3V will continue to violate the equipment leak requirements in the MON.

94. As described in Paragraphs 44 - 45, for each violation referred to in this Claim for Relief, the United States is entitled to injunctive relief, as well as civil penalties, pursuant to 42 U.S.C. § 7413.

**SECOND CLAIM FOR RELIEF**  
**(Violations of Wastewater Stream Requirements)**

95. Paragraphs 1 - 73 are re-alleged and incorporated herein by reference.

96. At all times relevant to this Complaint, 3V has been required to comply with the requirements in 40 C.F.R. § 63.132 – 148 in 40 C.F.R. Part 63, Subpart G for each of its process wastewater streams.

*Failure to Properly Designate or Determine Group Status of Wastewater Streams*

97. For each of the Facility's process wastewater streams, 3V was required by 40 C.F.R. § 63.132(a)(1) to either designate the stream as a Group 1 wastewater stream in accordance with the procedures in 40 C.F.R. § 63.132(e) or to determine whether the stream was a Group 1 or Group 2 wastewater stream based on the annual average concentration and total annual load of MON Wastewater Compounds and the flow rate of the stream in accordance with the procedures in 40 C.F.R. § 63.144(b) [concentration] and (c) [flow rate] and the group definitions in 40 C.F.R. § 63.2485(c).

98. 3V was required to submit the information in Paragraph 97 no later than October 2008 for each process wastewater stream generated by a MON Process at the Facility as of that

date, and by no later than the due date of the Semi-Annual Compliance Report following the addition of new MON Processes at the Facility that generated process wastewater streams.

99. At various times between October 2008 and the present, 3V has generated process wastewater streams as part of the following MON Processes: Tabanol 5, HA-88, Distillate B to A (as part of the 51MT Process), and HA-19.

100. The Facility has at least nine points where process wastewater is, or was, discarded either from the cryogenic condenser (as part of the Tabanol 5 Process) or one of the Facility's MCPUs (as part of the HA-88, HA-19, or the Distillate B to A Processes).

101. Each of the points described in Paragraph 100 is a "point of determination" within the meaning of 40 C.F.R. § 63.2550(i). Each point of determination indicates a separate process wastewater stream.

102. 3V has never designated any process wastewater streams at the Facility as Group 1 wastewater streams in accordance with 40 C.F.R. §§ 63.132(a)(1)(ii) and 63.132(e) of Subpart G.

103. 3V failed to properly determine the group status for all process wastewater streams at the Facility in accordance with 40 C.F.R. § 63.144(b), because (1) 3V did not determine the concentration of MON Wastewater Compounds and flow rate for each process wastewater stream at the point of determination or, alternatively, at a downstream point while accounting for changes in concentration and flow rate from the point of determination; (2) 3V did not determine the concentration of all MON Wastewater Compounds reasonably expected to be in process wastewater streams generated by the HA-88 process, including ethylbenzene, methanol, and methylene chloride, or, alternatively, provide documentation demonstrating those compounds are not reasonably expected to be in the wastewater streams; and (3) 3V did not

properly determine the annual average concentration of methanol in the Distillate B to A Process (discarded from the Epsilon Plant) as required by 40 C.F.R. § 63.144(b).

104. Between October 8, 2008 through the present, 3V has failed to properly determine the group status of each process wastewater stream at the Facility as required by 40 C.F.R. § 63.132(a)(1) in Subpart G.

105. Each day that 3V failed to properly determine the group status for each of its process wastewater streams is a separate failure to comply with 40 C.F.R. § 63.132(a)(1) in Subpart G.

106. Each of 3V's failures to comply with the requirement set forth in 40 C.F.R. § 63.132(a)(1) is a separate violation of the MON's wastewater stream requirements in 40 C.F.R. § 63.2485(a) and Table 7 and 42 U.S.C. § 7412.

107. Unless enjoined by this Court, 3V will continue to violate the MON by failing to properly determine the group status for each of its process wastewater streams in accordance with 40 C.F.R. § 63.132(a)(1).

108. As described in Paragraphs 44 - 45, for each violation of 40 C.F.R. § 63.132(a)(1), the United States is entitled to injunctive relief pursuant to 42 U.S.C. § 7413.

109. As described in Paragraphs 44 – 45, for each violation of 40 C.F.R. § 63.132(a)(1) related to the group determinations submitted in the 2020 NOCS Revision and the failure to make group determinations for wastewater streams associated with the HA-19 Process, the United States is entitled to civil penalties pursuant to 42 U.S.C. § 7413.

*Failure to Control Group 1 Wastewater Streams in Accordance with Selected Compliance Option*

110. Between 2015 through the present, the Facility generates, and has generated, process wastewater streams that meet the criteria for a Group 1 stream under 40 C.F.R.

§ 63.2485(c) as part of its MON Processes, including at least the Tabanol 5, HA-88, and Distillate B to A Processes.

111. In the August 2020 Letter, 3V reported that it continued to control its Group 1 wastewater streams by complying with 40 C.F.R. § 63.138(b)(1), which requires reducing, by removal or destruction, the total concentration of MON Wastewater Compounds in those streams to a level less than 50 ppmw using a treatment process with its packed bed steam stripper and associated condenser and accumulator.

112. An owner/operator may only use this compliance option if it does not dilute its wastewater streams to meet the total concentration limit of 50 ppmw. 40 C.F.R. § 63.138(b)(1)(ii).

113. 3V combines Group 1 wastewater streams, Group 2 wastewater streams, and liquid streams that may not meet the definition of wastewater in a wastewater tank before directing the flow to the packed bed steam stripper, which is “dilution,” as that term is used in 40 C.F.R. § 63.138(b)(1)(ii).

114. Because 3V dilutes its Group 1 process wastewater streams prior to treatment, it cannot demonstrate that it is reducing, by removal or destruction, the total concentration of MON Wastewater Compounds in its Group 1 wastewater streams to less than 50 ppmw. Therefore, 3V has failed to comply with the requirements of 40 C.F.R. § 63.138(b)(1).

115. Each day that 3V has failed to control its Group 1 wastewater streams in accordance with 40 C.F.R. § 63.138(b)(1) is a separate failure to comply with the requirements in that provision.

116. Each of 3V’s failures to comply with the regulations in 40 C.F.R. § 63.138(b)(1) is a separate violation of the MON’s wastewater stream requirements in 40 C.F.R. § 63.2485(a)

and Table 7 and 42 U.S.C. § 7412.

117. Unless enjoined by this Court, 3V will continue to violate the MON by failing to control its Group 1 wastewater streams in accordance with 40 C.F.R. § 63.138(b)(1).

118. As described in Paragraphs 44 - 45, for each violation of 40 C.F.R. § 63.138(b)(1), the United States is entitled to injunctive relief, as well as civil penalties, pursuant to 42 U.S.C. § 7413.

*Failure to Properly Conduct a Performance Test or Design Evaluation for the Steam Stripper*

119. If an owner or operator elects to control its wastewater streams with an option under 40 C.F.R. § 63.138(b)(1), they must demonstrate that the treatment process complies with the control standards by performing either a design evaluation or performance test on the process in accordance with 40 C.F.R. §§ 63.138(j)(1) (design evaluation) or 63.138(j)(2) (performance test). The design evaluation and supporting documentation must be based on representative conditions at the Facility under which it would be most difficult to demonstrate compliance. 40 C.F.R. § 63.138(j)(1).

120. Because 3V chose to control the Facility's Group 1 wastewater streams with an option under 40 C.F.R. § 63.138(b)(1), it was required to perform either a design evaluation or performance test of the steam stripper that complied with the requirements in 40 C.F.R. § 63.138(j) and submit the documentation of such with its 2008 NOCS Report.

121. The design evaluation 3V provided in its 2008 NOCS Report was not based on conditions under which it would be most difficult to demonstrate compliance, because it was based on an operating scenario in which methylene chloride was the only MON Wastewater Compound routed to the steam stripper, although the Facility's operations from 2008 to the

present resulted in more than one MON Wastewater Compound being routed to the steam stripper.

122. In June 2016, 3V added the HA-88 Process to the 3V Affected Source, which resulted in additional process wastewater streams containing xylenes, methanol, methylene chloride, and ethylbenzene being sent to the steam stripper, including at least one process wastewater stream meeting the criteria for a Group 1 wastewater stream.

123. Because the addition of the HA-88 Process was a change that was outside the scope of an existing operating scenario, 3V was required to demonstrate that its treatment process could meet control requirements by performing either a design evaluation or a performance test for the steam stripper that met the requirements of 40 C.F.R. § 63.138(j)(1) no later than August 31, 2016.

124. 3V did not submit a new design evaluation or performance test for the steam stripper after the addition of the HA-88 Process.

125. 3V failed to comply with the requirements of 63.138(j)(1) and 40 C.F.R. § 63.2520(e)(10), because it never demonstrated that its steam stripper can comply with control requirements in Subpart G in an operating scenario where the concentration of MON Wastewater Compounds would be most difficult to demonstrate compliance.

126. Each day that 3V has failed to demonstrate that its treatment process complies with control standards for its Group 1 process wastewater streams in accordance with the requirements of 40 C.F.R. § 63.138(j) is a separate failure to comply with those requirements.

127. Each of 3V's failures to comply with the requirement set forth in 40 C.F.R. § 63.138(j) is a violation of the MON's wastewater stream requirements in 40 C.F.R. § 63.2485(a) and Table 7 and 42 U.S.C. § 7412.



128. Unless enjoined by this Court, 3V will continue to violate the MON by failing to demonstrate that its treatment process complies with the control standards for its Group 1 process wastewater streams in accordance with the requirements of 40 C.F.R. § 63.138(j).

129. As described in Paragraphs 44 - 45, for each violation of 40 C.F.R. § 63.138(j), the United States is entitled to injunctive relief pursuant to 42 U.S.C. § 7413.

*Failure to Maintain a Fixed Roof on Wastewater Management Units*

130. Two of the Facility's wastewater tanks are equipped with gooseneck vents, which remain open to the atmosphere at all times and permit emissions from those tanks to reach the atmosphere.

131. 3V failed to comply with the requirements of 40 C.F.R. § 63.133(a)(1), because each of its wastewater tanks did not have a fixed roof.

132. Since at least the 2017 inspection, each day that 3V operated the tanks described in Paragraph 130 for MON Processes without a fixed roof is a separate failure to comply with the requirements in that provision.

133. Each of 3V's failures to comply with the requirement set forth in 40 C.F.R. § 63.133(a)(1) is a violation of the MON's wastewater stream requirements in 40 C.F.R. § 63.2485(a) and Table 7 and 42 U.S.C. § 7412.

134. Unless enjoined by this Court, 3V will continue to violate the MON by failing to maintain and operate a fixed roof on wastewater tanks that receive, manage, or treat a Group 1 wastewater stream in accordance with 40 C.F.R. § 63.133(a)(1).

135. As described in Paragraphs 44 - 45, for each violation of 40 C.F.R. § 63.133(a)(1), the United States is entitled to injunctive relief, as well as civil penalties, pursuant to 42 U.S.C. § 7413.

**THIRD CLAIM FOR RELIEF**

**(Violations of Closed Vent System Requirements or, in the alternative, Good Air Pollution Control Practice Requirements)**

136. Paragraphs 1 - 73 are re-alleged and incorporated herein by reference.

137. The Facility includes two storage tanks that store methanol: TK102, which is associated with Delta 1 Plant and has a tank capacity of 20,000 gallons and TK301, which is associated with Alpha/Beta/Epsilon Plant and has a tank capacity of 19,000 gallons.

138. TK102 and TK301 are each a “Group 1 storage tank” as that term is defined in 40 C.F.R. § 63.2550(i).

139. In the 2008 NOCS Report and each NOCS Revision, 3V represented that it had chosen to comply with MON emission limits for TK102 and TK301 by venting organic HAP emissions through a closed-vent system to a control device.

140. For each of these tanks, 3V was required to comply with the requirements of 40 C.F.R. § 63.982(c) and the requirements referenced therein.

141. During the 2015 inspection, EPA inspectors observed, with a FLIR camera, emissions of a chemical with strong absorbance bands between 3 and 5 microns coming from the top of TK102 and TK301 into the ambient air. During the 2017 inspection, EPA inspectors observed similar emissions coming from the top of TK102 into the ambient air.

142. The chemical methanol has strong absorbance bands between 3 and 5 microns, within the FLIR camera’s detectable range, and is visible with the FLIR camera.

143. On information and belief, the chemical observed from the tanks during the 2015 and 2017 inspections was methanol.

144. 3V failed to design and operate its closed-vent systems to collect regulated material vapors from the emission point and route them to a control device during times of operation, in violation of 40 C.F.R. § 63.983(a).

145. Each of 3V's failures to route emissions from a storage tank through a closed-vent system to a control device in compliance with 40 C.F.R. § 63.983 is a violation of 40 C.F.R. § 63.982(c), which is a violation of 40 C.F.R. § 63.2450(e)(1).

146. In the alternative, to the extent 3V alleges that the emissions from TK102 and TK301 during the 2015 and 2017 inspections were not emitted from the closed vent system, 3V violated the requirement in the NESHAP General Provisions, 40 C.F.R. § 63.6(e), to operate and maintain an affected source in accordance with good air pollution control practices to minimize emissions, because there were no conditions requiring use of a pressure relief valve and emissions from the tanks were not being minimized.

147. Each violation of the MON or the NESHAP General Provisions constitutes a violation of 42 U.S.C. § 7412 and its implementing regulations at 40 C.F.R. Part 63, Subpart FFFF or Subpart A.

148. Upon information and belief, unless enjoined by the Court, 3V will continue to violate the requirements of the MON related to its closed vent systems or the NESHAP General Provisions.

149. As described in Paragraphs 44 - 45, for each violation referred to in this Claim for Relief, the United States is entitled to injunctive relief, as well as civil penalties, pursuant to 42 U.S.C. § 7413.

**FOURTH CLAIM FOR RELIEF**  
**(Violations of Reporting Requirements)**

150. Paragraphs 1 - 149 are re-alleged and incorporated herein.

151. Between 2016 and the present, 3V added two additional MON Processes at the Facility: HA-19 and HA-88.

152. 3V did not provide in its Semi-Annual Compliance Reports information required by 40 C.F.R. § 63.2520(e)(10) regarding these processes, including at least: (1) for HA-19 only, a description of the process change; (2) information that was required to be in the 2008 NOCS Report for each process, including any information required by 40 C.F.R. § 63.146(b), as incorporated by 40 C.F.R. § 63.2485(a); (3) all operating scenarios for each process; (4) group status for process vents and storage tanks associated with each process; (5) information on equipment leaks; (6) emission calculations and analyses to identify HAP emissions; or (7) monitoring information for the steam stripper.

153. The Semi-Annual Compliance Report following the addition of the HA-88 Process was due August 31, 2016.

154. Each Semi-Annual Report submitted by 3V since August 31, 2016 that did not include the information required for the HA-88 Process is a separate violation of 40 C.F.R. § 63.2520(e)(10).

155. The Semi-Annual Compliance Report following the addition of the HA-19 Process was due August 31, 2019.

156. Each Semi-Annual Compliance Report that 3V submitted between August 31, 2019 and February 28, 2020 that did not include the information required for the HA-19 Process is a separate violation of 40 C.F.R. § 63.2520(e)(10).

157. Each of 3V's failures to include the information in Paragraph 152 for a new process in its semi-annual compliance reports is a violation of 40 C.F.R. § 63.2520(e)(10) and 42 U.S.C. § 7412.

158. Upon information and belief, unless enjoined by the Court, 3V will continue to violate reporting and recordkeeping requirements in the MON.

159. As described in Paragraphs 44 - 45, for each violation referred to in this Claim for Relief, the United States is entitled to injunctive relief pursuant to 42 U.S.C. § 7413.

160. As described in Paragraphs 44 - 45, for each violation referred to in this Claim for Relief related to the HA-19 Process, the United States is entitled to civil penalties pursuant to 42 U.S.C. § 7413.

**PRAYER FOR RELIEF**

WHEREFORE, Plaintiff, the United States of America, respectfully requests that this Court:

- A. Order 3V to take all necessary steps to comply with the CAA and its implementing regulations at the Facility;
- B. Assess civil penalties against 3V for each violation of the CAA and its implementing regulations as set out in this Complaint;
- C. Award the United States its costs in this matter; and
- D. Grant such other and further relief as this Court deems just and proper.

Respectfully submitted,

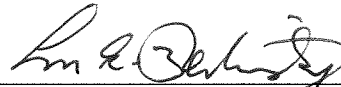
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# **Appendix A – February 24, 2020 EPA Letter to 3V Sigma**



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**  
REGION 4  
ATLANTA FEDERAL CENTER  
61 FORSYTH STREET  
ATLANTA, GEORGIA 30303-8960

**UNITED PARCEL SERVICE**

FEB 24 2020

Mr. Scott McNair  
3V Sigma USA, Inc.  
888 Woodstock Street  
Georgetown, South Carolina 29440

**Re: Request for Meeting to Discuss 3V Sigma USA Clean Air Act Compliance Concerns**

Dear Mr. McNair:

Based upon information gathered during inspections and the response to the U.S. Environmental Protection Agency's Clean Air Act (CAA) Section 114 Information Request, the EPA is concerned that the 3V Sigma USA (3V) specialty chemicals manufacturing facility located in Georgetown, South Carolina, may not be achieving adequate compliance with the requirements of the CAA. Enclosed with this letter is a summary of concerns identified (see Enclosure A).

We are offering 3V an opportunity to meet with the EPA to discuss the enclosed concerns. During the meeting, 3V will have an opportunity to present any relevant information, evidence, and documentation including, but not limited to, correspondence, test reports, monitoring records, inspections, and any other relevant information that will address the concerns raised in this letter. If EPA determines that its concerns constitute violations of CAA requirements, such violations could be subject to an enforcement action pursuant to Section 113 of the CAA, 42 U.S.C. § 7413, which provides for the assessment of civil penalties and/or the initiation of a civil action.

In order to arrange a mutually agreeable date and time for this meeting, please contact Nicole Radford at (404) 562-9099 at your earliest convenience. We will be represented by legal counsel, and you have the right to be represented as well.

Sincerely,

A handwritten signature in blue ink, appearing to read "Todd Russo", is written over a horizontal line.

Todd Russo  
Chief  
Air Enforcement Branch

Enclosure

cc: Keith Frost, SC DHEC  
Michael Shroup, SC DHEC





## Enclosure A – Summary of Concerns at 3V Signa USA

Regulation	Findings/Responses
<p><b>Area of Concern 1</b></p> <p><b>40 C.F.R. § 63.2480(a) [Subpart FFFF]</b> – Requires the owner or operator to comply with the requirements of 40 C.F.R. part 63, subpart UU.</p> <p><b>40 C.F.R. § 63.1038(b)(1) [Subpart UU]</b> – Requires the owner or operator to keep general and specific equipment identification.</p> <p><b>40 C.F.R. § 63.1022(a) [Subpart UU]</b> – General Equipment Identification. Equipment subject to this subpart shall be identified. Identification of the equipment does not require physical tagging of the equipment.</p>	<p>The facility uses Piping &amp; Instrumentation diagrams (P&amp;IDs) to identify equipment for Method 21 inspections. It appeared to EPA inspectors that these diagrams were not updated. Specifically, at the time of the 2015 inspection in the Main tank farm, the P&amp;IDs used to conduct leak detection and repair (LDAR) specified a line that had been previously removed. Furthermore, components were not labelled/numbered on the diagrams. Facility monitoring personnel either use markings made by “sharpies” to indicate components that were monitored in previous years or have an operator escort them around process units to find components. 40 C.F.R. § 63.1022(a).</p> <p>Additionally, in Attachment G, Equipment Leak Information Requirements of the 2008 notice of compliance status (NOCS) report, 3V has only identified 1,051 valves for Method 21 monitoring for all miscellaneous organic chemical manufacturing process units (MCPUs) and storage tanks annually. Semi-annual reports submitted from 2014 through 2018 indicate that Method 21 monitoring of valves varied drastically from year to year. In 2014, 847 valves were reported as being monitored by Method 21, the lowest total in the five-year period, and in 2017, 2,233 valves were reported as being monitored by Method 21, the highest total in the five-year period. 3V stated that all valves subject to Subpart FFFF are on an annual monitoring schedule. The large year-to-year difference in the number of identified monitored valves for each year indicates that 3V may not be identifying all valves as required by § 63.1022.</p>
<p><b>Area of Concern 2</b></p> <p><b>40 C.F.R. § 63.2480(b) [Subpart FFFF]</b> – Requires the owner or operator to comply with the requirements of 40 C.F.R. part 63, subpart UU.</p> <p><b>40 C.F.R. § 63.1023(e)(1) [Subpart UU]</b> – Requires a weatherproof and readily visible identification, marked with the equipment identification, be attached to the leaking equipment.</p>	<p>During the 2015 and 2017 inspections, the EPA inspectors observed leaks above the threshold and informed facility personnel, but the personnel did not attach tags to indicate leaking equipment. Facility personnel indicated at the time of the inspection that their standard operating procedure upon discovering a leak is to notify the area maintenance manager and create a work order, but not to attach tags indicating that the equipment is leaking.</p>

Regulation	Findings/Responses
<p><b>Area of Concern 3</b></p> <p><b>40 C.F.R. § 63.2480(b) [Subpart FFFF]</b> – Requires the owner or operator to comply with the requirements of 40 C.F.R. part 63, subpart UU.</p> <p><b>40 C.F.R. 63.1023(b)(3) &amp; (4) [Subpart UU] and Method 21 of 40 CFR part 60, appendix A 7.1.2</b> – Requires the calibration of detection instruments as specified in Method 21, using zero air (less than 10 ppm hydrocarbon in air) and methane at a concentration approximately equal to the applicable leak definition specified in the regulation (and no more than 2,000 ppm greater than the leak concentration). 3V is subject to two leak thresholds: 500 ppm and 10,000 ppm.</p>	<p>The facility uses ambient air instead of zero air during the calibration of its toxic vapor analyzers (TVAs) and only uses 500 ppm concentration methane for calibration of its TVAs.</p>
<p><b>Area of Concern 4</b></p> <p><b>40 C.F.R. § 63.2480(b) [Subpart FFFF]</b> – Requires the owner or operator to comply with the requirements of 40 C.F.R. part 63, subpart UU.</p> <p><b>40 C.F.R. § 63.1023(a) [Subpart UU]</b> – Requires the owner or operator to monitor equipment for leaks.</p> <p><b>40 C.F.R. § 63.1023(b) [Subpart UU]</b> – Requires compliance with Method 21 of Appendix A of 40 C.F.R. Part 60, which requires certain work practice standards for the implementation of LDAR.</p> <p><b>40 C.F.R. Part 60, Appendix A-7, Method 21, section 8.3</b> – Specifies Method 21 monitoring requirements.</p>	<p>3V has historically reported no or very few leaks. During the December 2015 inspection, the EPA monitored equipment using a TVA and found seven components that had elevated readings indicating leaks. During the June 2017 inspection, the EPA monitored equipment and found that 15 components had elevated readings indicating leaks. The EPA inspectors also found nine pumps with elevated readings above 10,000 ppm, including one pump with a visible leak, two weeks after the facility recorded no pump leaks during the monthly monitoring session. There is a discrepancy between the leak rates found at the facility by the EPA and the historic leak rate reported by 3V, which indicates that 3V is not properly implementing the LDAR monitoring requirements.</p>
<p><b>Area of Concern 5</b></p> <p><b>40 C.F.R. § 63.2480(b) [Subpart FFFF]</b> – Requires the owner or operator to comply with the requirements of 40 C.F.R. part 63, subpart UU.</p> <p><b>40 C.F.R. § 63.1033(b)(1) [Subpart UU]</b> – Requires open-ended valve or line be equipped with a cap, blind flange, plug, or a second valve.</p>	<p>During the June 2017 inspection the EPA found 79 open-ended lines, and during the December 2015 inspection the EPA found ten open-ended lines.</p>



Regulation	Findings/Responses			
<p><b>Area of Concern 6</b></p> <p><b>40 C.F.R. § 63.2470(a) [Subpart FFFF]</b> – You must meet each emission limit in Table 4 that applies to your storage tanks, and meet each applicable requirement specified in paragraphs (b) through (e) of this section.</p> <p><b>Table 4 of 40 C.F.R. Part 63, Subpart FFFF</b></p> <table><tr><td>1. Group 1 storage tank</td><td>b. The maximum true vapor pressure of total HAP at the storage temperature is &lt;76.6 kilopascals</td><td>ii. Reduce total HAP emissions by ≥95 percent by weight or to ≤20 ppmv of TOC or organic HAP and ≤20 ppmv of hydrogen halide and halogen HAP by venting emissions through a closed vent system to any combination of control devices (excluding a flare);</td></tr></table>	1. Group 1 storage tank	b. The maximum true vapor pressure of total HAP at the storage temperature is <76.6 kilopascals	ii. Reduce total HAP emissions by ≥95 percent by weight or to ≤20 ppmv of TOC or organic HAP and ≤20 ppmv of hydrogen halide and halogen HAP by venting emissions through a closed vent system to any combination of control devices (excluding a flare);	<p>Tanks TK102 and TK301 are Group 1 storage tanks that store methanol. During the June 2017 inspection, inspectors using an infrared camera observed emissions emitting from what appeared to be a conservation vent on Group 1 methanol storage tank TK301. During the December 2015 and June 2017 inspections, the EPA inspectors observed continuous emissions with the infrared camera emitting from the top of Group 1 methanol storage tank TK102, which EPA believes was emitted from a leak in the closed vent system.</p> <p>Under 40 C.F.R. § 63.2470(a), Group 1 storage tanks that use a control device other than a flare must comply with 40 C.F.R. Part 63, Subpart FFFF, Table 4, which provides four compliance options for Group 1 storage tanks with a vapor pressure &lt;76.6 kPa. Based on the NOCS report, the EPA evaluated 3V’s compliance with compliance option 2 for tanks TK102 and TK301, which requires the source to reduce total HAP emissions by ≥95 percent by weight or to ≤ 20 ppmv of total organic compounds (TOC) or organic HAP by venting emissions through a closed vent system to any combination of control devices (excluding a flare). A properly designed and operating closed vent system, including associated systems and control devices, should be able to accommodate vapors displaced during regular tank operation including tank loading. Continuous emissions leaking from the conservation vent indicate that the closed vent system is not “closed” because it is allowing the release of HAPs from tank components rather than venting all emissions to the control device.</p>
1. Group 1 storage tank	b. The maximum true vapor pressure of total HAP at the storage temperature is <76.6 kilopascals	ii. Reduce total HAP emissions by ≥95 percent by weight or to ≤20 ppmv of TOC or organic HAP and ≤20 ppmv of hydrogen halide and halogen HAP by venting emissions through a closed vent system to any combination of control devices (excluding a flare);		
<p><b>Area of Concern 7</b></p> <p><b>40 C.F.R. § 63.2485(a) through (c) [Subpart FFFF]</b> – Requires the facility to determine the appropriate group status of process wastewater streams by meeting all of the requirements in Table 7 for compounds identified in Tables 8 and 9.</p> <p><b>Table 7 to 40 C.F.R. Part 63, Subpart FFFF</b> – Requires that Process Wastewater Streams comply with 40 C.F.R. §§ 63.132 through 63.148.</p> <p><b>40 C.F.R. § 63.144(a) [Subpart G]</b> – the owner or operator shall either designate each wastewater stream as Group 1 or determine whether each wastewater stream is Group 1 or Group 2 using</p>	<p>3V has made group status determinations for some wastewater streams at a point downstream of the appropriate point of determination and has not made group status determinations for some wastewater streams subject to the Miscellaneous Organic Chemical Manufacturing National Emission Standard for Hazardous Air Pollutants (MON) wastewater provisions.</p> <p>Specifically, in its NOCS reports, 3V indicated that there are only three processes (Elphos ET, Luxus 2, and Luxus 5) that generate Group 1 and Group 2 MON wastewater streams. However, 3V did not include any documentation as to the identification of the waste streams, the concentration of Table 8 and/or Table 9 compounds, or the annual average flow rate for those processes. As indicated in its NOCS report and as standard practice, 3V determines group status for wastewater at the stripper feed tank, where wastewaters from several processes are combined. This is not the appropriate point of determination (POD); sampling</p>			



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<p>the procedures in § 63.144(b) and (c). The owner may use a combination of the approaches in paragraph (a)(1) and (a)(2) of this section for different wastewater streams generated at the source.</p> <p><b>40 C.F.R. § 63.144(b)(6) [Subpart G]</b> – If the owner or operator chooses to make a group status determination downstream of the point of determination, the owner or operator must make adjustments to the individual data points or to the final average concentration.</p> <p><b>40 C.F.R. § 63.111 [Subpart G]</b> – Point of determination means each point where process wastewater exits the chemical manufacturing process unit.</p>	<p>wastewater here does not accurately determine group status for individual wastewater streams. In order to determine group status here, 3V would have to adjust for: air emissions losses, reduction of annual average concentration, or changes in flowrate by mixing with other water and/or wastewater streams as required by 40 C.F.R. § 63.144(b)(6).</p> <p>Additionally, during the June 2017 inspection, the EPA determined that there were other processes at the facility that generate MON wastewater streams. While on site and through review of process descriptions/diagrams, the EPA inspectors identified 10 points of determination at three processes (HA-88, Distillate A, and Tabanol 5) in operation during the time of the inspection. After taking samples at some of these PODs and analyzing those results, three streams meet the concentration thresholds for Group 1 wastewater streams:<sup>1</sup></p> <ul style="list-style-type: none"> <li>• Aqueous decant from V432 – 100 % MeCl</li> <li>• C504 reboiler first cut – 95,000 ppm methanol</li> <li>• R101 second wash – ≈1700 ppm xylene and ethylbenzene</li> </ul> <p>Finally, to the extent 3V's NOCS reports identify wastewater streams at the facility, it appears from the analytical data from 2013 through 2016 that 3V is no longer operating those processes and wastewater streams. In other words, 3V is no longer operating processes identified in the NOCS report and has failed to designate wastewater streams for processes currently in operation. According to data provided by 3V, most batches sampled at the stripper feed tank V584 meet at least one of the HAP concentration thresholds of a Group 1 wastewater stream. In calendar years 2015 and 2016, 3V's samples at the stripper feed tank met the MON Group 1 wastewater stream HAP concentration thresholds; however, during this time, 3V was not operating any processes (Elphos ET, Luxus 2, and Luxus 5) that it originally identified in its NOCS reports as generating MON wastewater streams.</p> <p>Therefore, it appears that 3V has not identified all of its wastewater streams, accurately assessed PODs, or assessed if MON wastewater Group 1 concentration thresholds were triggered while none of the processes identified by 3V as generating wastewater streams were operating.</p>

<sup>1</sup> EPA does not know the annual average flowrate of these three wastewater streams.

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<p><b>Area of Concern 8</b></p> <p><b>40 C.F.R. § 63.2485(c)(1) – (3) [Subpart FFFF]</b> – Requires the facility to determine group status of a wastewater stream using certain concentration and flow criteria for Table 8 and Table 9 compounds.</p>	<p>During the June 2017 inspection, the EPA conducted sampling at nine locations at the facility. At two of these sampling locations, the V584 stripper feed tank and the R101 second wash, sample analysis identified Ethylbenzene as a constituent. Ethylbenzene is not identified as a wastewater chemical in 3V's MON NOCS reports.<sup>2</sup> Ethylbenzene is a 40 C.F.R. Part 63 Subpart FFFF Table 8 compound.</p>
<p><b>Area of Concern 9</b></p> <p><b>40 C.F.R. § 63.2485(b) [Subpart FFFF]</b> – Wastewater HAP. Where § 63.105 and § 63.132 through § 63.148 refer to compounds in Table 9 of subpart G of this part 63, the compounds in Tables 8 and 9 to this subpart apply for the purposes of this subpart.</p> <p><b>40 C.F.R. § 63.138(b) [Subpart G]</b> – Requires the facility to comply with either control option in paragraphs (b)(1) or (b)(2) for Group 1 wastewater streams containing Table 9 compounds.</p> <p><b>40 C.F.R. § 63.138(b)(1)(ii) [Subpart G]</b> – Dilution shall not be used to achieve compliance with this option.</p>	<p>3V indicated it chose the compliance option at 63.138(b)(1), which requires it to reduce concentrations of Table 8 and 9 compounds to 50 ppw, not relying on dilution. However, at the 3V facility, Group 1 wastewater streams are diluted by other wastewater (Group 2 and/or non-regulated wastewater) when liquid streams are combined into intermediate tanks and the packed bed scrubber feed tank V584. The wastewater streams discharge to intermediate tanks (except for the decant from V523, which discharges to a tote) before they are combined in V584. 3V chose an inappropriate treatment standard, documented in the NOCS reports, because Group 1 wastewater streams are diluted by other wastewater (Group 2 and/or non-regulated wastewater) when liquid streams are combined into intermediate tanks and the packed bed scrubber feed tank V584.</p> <p>The EPA reviewed analytical results from sampling performed at V586, the tank that receives the treated wastewater from the packed bed scrubber (steam stripper). 3V exceeded its chosen compliance option of 50 ppmw for methylene chloride and xylene for 212 batches from 2013 through 2016.</p>

<sup>2</sup> Three chemicals are identified in the MON NOCS reports: methylene chloride, methanol, and xylene.



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<p><b>Area of Concern 10</b></p> <p><b>40 C.F.R. § 61.133 [Subpart G]</b> – Requires wastewater tanks that receive, manage, or treat Group 1 wastewater streams to comply with the requirements of either (a)(1) or (a)(2). Per (a)(1), a fixed roof (defined in § 63.111) shall be maintained, which means a cover that is mounted on a waste management unit or storage vessel in a stationary manner and that does not move with fluctuations in liquid level. Cover means a device or system which is placed on or over a waste management unit containing wastewater or residuals so that the entire surface area is enclosed to minimize air emissions.</p>	<p>The NOCS reports identify seven wastewater tanks that handle Group 1 wastewaters equipped with a fixed roof. Tanks V441, V584, and V586 have gooseneck vents that vent directly to the atmosphere. This means these fixed roofs do not meet the regulatory definition of cover because the entire surface is not enclosed to minimize air emissions. Additionally, the EPA inspectors collected infrared camera video of wastewater tank TK510 in 2015 indicating that continuous emissions were emitting from the conservation vent. In 2017, the EPA inspectors also recorded emissions emitting from a gooseneck on the stripper feed tank V584. 3V took readings with their TVA on the V584, which “flamed out” the TVA.</p> <p>Finally, accumulator V405, not mentioned in the NOCS reports, collects the residuals from the packed bed stripper and is equipped with a conservation vent that vents directly to the atmosphere. During the 2017 inspection, the EPA collected infrared camera video indicating that the conservation vent was open and the accumulator was venting continuously to the atmosphere, even when the packed bed stripper was not operating.</p>
<p><b>Area of Concern 11</b></p> <p><b>40 C.F.R. § 63.136(e)(3) [Subpart F]</b> – Requires that each sewer line shall not be open to the atmosphere and shall be covered or enclosed in a manner so as to have no visible gaps or cracks in joints, seals, or other emission interfaces.</p>	<p>During the December 2015 inspection, the EPA inspectors conducted an Olfactory Visual and Audio (OVA) inspection of the facility’s MON wastewater lines and found water leaking from a flange on the pipe from Group 1 wastewater tank V441 and a flange leaking off of a pipe for Group 1 wastewater tank V326. The flange constitutes a “joint” within the meaning of 40 C.F.R. § 63.136(e)(3).</p>
<p><b>Area of Concern 12</b></p> <p><b>40 C.F.R. § 63.2490(a) [Subpart FFFF]</b> – You must comply with each requirement in Table 10 of this subpart that applies to your heat exchange systems, except as specified in paragraphs (b) and (c) of this section.</p> <p><b>Table 10 to 40 C.F.R. Part 63, Subpart FFFF</b>– For heat exchange systems, as defined in 40 C.F.R. § 63.101, comply with the requirements of 40 C.F.R. § 63.104 and the requirements referenced therein, except as specified in 40 C.F.R. § 63.2490.</p> <p><b>40 C.F.R. § 63.104(a)(1) [Subpart H]</b> - The heat exchange system is operated with the minimum pressure on the cooling water side at least 35</p>	<p>3V has elected to operate the heat exchange system with a minimum pressure on the cooling water side of at least 35 kilopascals greater than the maximum pressure on the process side. At the time of inspection, 3V was unable to substantiate an appropriate pressure differential for all affected heat exchanger systems at the facility.</p>

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kilopascals greater than the maximum pressure on the process side.	
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<p><b>Area of Concern 13</b></p> <p><b>40 C.F.R. §63.2525 What records must I keep? [Subpart FFFF]</b> – You must keep the records specified in paragraphs (a) through (k) of this section. (a) Each applicable record required by subpart A of this part 63 and in referenced subparts F, G, SS, UU, WW, and GGG of this part 63 and in referenced subpart F of 40 C.F.R. part 65.</p> <p><b>40 C.F.R. § 63.2520(d) [Subpart FFFF]</b> – Notification of compliance status report. You must submit a notification of compliance status report according to the schedule in paragraph (d)(1) of this section, and the notification of compliance report must contain the information specified in paragraph (d)(2) of this section.</p> <p><b>40 C.F.R. § 63.2520(d)(2)(i) [Subpart FFFF]</b> – The notification of compliance status report must include the results of any applicability determinations, emission calculations, or analyses used to identify and quantify HAP usage or HAP emissions from the affected source.</p> <p><b>40 C.F.R. § 63.152(b)(1) [Subpart G]</b> - The notification shall include, among other things, the results of any emission point group determinations.</p> <p><b>Table 15 to 40 C.F.R. Part 63, Subpart G</b> - For each new and existing source, the owner or operator shall submit the information specified in table 15 of this subpart for Table 8 and/or Table 9 compounds.</p> <p><b>Table 18 to 40 C.F.R. Part 63, Subpart G</b> – Information for Waste Management Units to Be Submitted with Notification of Compliance Status Report.</p>	<p>3V did not submit the applicability determinations for any wastewater streams at the facility for each MCPU as required in 40 C.F.R. § 63.2520(d)(2)(i). Additionally, 3V did not include a Table 8 compound, Ethylbenzene, in the NOCS Report.</p> <p>Table 15 to Subpart G requires in the NOCS report for each point of determination the following information: the process equipment/unit it originates from, the MCPU, the annual average concentration of Table 8 and/or Table 9 compounds, the flowrate in liters per minute, and group status. There are no applicability determinations for waste water found in the NOCS report. 3V simply determined that there were Group 1 waste streams, without providing the other required information about those streams.</p> <p>The NOCS report had limited information on the waste management units at the facility. 3V provided a list of waste water tanks, but did not identify the waste streams going to each tank as required in Table 8 of Subpart G.</p>



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<p><b>Area of Concern 14</b></p> <p><b>Table 7 to 40 C.F.R. Part 63, Subpart FFFF</b> – comply with §§ 63.132 through 63.148.</p> <p><b>40 C.F.R. § 63.147(b)(8) [Subpart G]</b> – Requirements for Group 2 wastewater streams. This paragraph does not apply to Group 2 wastewater streams that are used to comply with 63.138(g). For all other Group 2 wastewater streams, the owner or operator shall keep in a readily accessible location records describing: the process unit identification and description of the process unit; stream identification code; concentration; methodology used to determine concentration; and, flow rate in liters per minute.</p>	<p>For wastewater streams identified as Group 2 (Elphos ET, Luxus 1, and Luxus 5), 3V did not identify the information required under 40 C.F.R. § 63.147(b)(8). 3V does not appear to be complying with 40 C.F.R. § 63.138(g) at those streams.</p>
<p><b>Area of Concern 15</b></p> <p><b>40 C.F.R. § 63.2520(e)(10) [Subpart FFFF]</b> – Requires a notification for a process change, or any change in the information submitted in the NOCS report or a previous report to be documented in the compliance report. The notification must include all of the information in paragraphs (e)(10)(i)(A) through (C). Notifications for a process change must include information such as: (A) A description of the process change; (B) Revisions to any of the information reported in the original notification of compliance status report; and (C) Information required by the notification of compliance status report for changes involving the addition of processes or equipment at the affected source.</p>	<p>From EPA’s review of semi-annual reports, Operational Flexibility Requests, and construction permits, there are at least four additional processes that appear to meet the requirements in 40 CFR §63.2435(b) to be considered a miscellaneous organic chemical manufacturing process that were implemented at the facility after the April 2011 NOCS Report update. None of these semi-annual reports or flexibility requests had the information required by 40 C.F.R. § 63.2520(e)(10)(i).</p>